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SEP 1 6 2004 PATENT

Docket No. 6245. N DV1 (M&R 268.62450102/Pfizer 029998)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Timothy E. Benson) Group A	art Unit:	1631
Serial No.: Confirmation	10/754,929 No.: 8647) Examine	er:	Shubo Zhou
Filed:	January 8, 2004)		
For:	CRYSTALLIZATION AND STAPHYLOCOCCUS AURE			
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Filed:	January 8, 2004))	
For:	CRYSTALLIZATION AND S STAPHYLOCOCCUS AUREU		

INFORMATION DISCLOSURE STATEMENT

Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with C.F.R. §§ 1.97 et. seq., the materials enclosed herewith are brought to the attention of the Examiner as possibly being of interest in connection with the above-identified patent application. Per M.P.E.P. § 609, the information cited in the present Information Disclosure Statement shall not be construed to be an admission that the information is, or is considered to be, material to patentability. Consideration of each of the documents listed on the attached 1449 form(s) is respectfully requested. As this patent application was filed after June 30, 2003, copies of the U.S. patents and U.S. patent application publications listed on the attached 1449 form(s) have not been submitted. Pursuant to the provisions of M.P.E.P. §609, Applicants further request that a copy of the 1449 form(s), marked as being considered and initialed by the Examiner, be returned with the next Official Communication.

This application is a divisional of U.S. Patent Application Serial No. 09/632,553, filed August 4, 2000 now U.S. Patent No. 6,689,595. In accordance with 37 C.F.R. §1.98(d),

Page 2 of 2

Information Disclosure Statement

Applicant(s): Timothy E. Benson

Serial No.: 10/754,929 Confirmation No.: 8647 Filed: January 8, 2004

For: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS

THYMIDYLATE KINASE

copies of documents previously cited by or submitted to the U.S. Patent and Trademark Office in connection with Applicants' prior application(s) listed above, are not included herewith.

It is believed that no fee is due, as this Information Disclosure Statement is filed prior to the receipt of any Action on the merits. However, in the event a fee is due, please charge any fee or credit any overpayment to Account No. 13-4895.

The Examiner is invited to contact Applicants' Representatives at the belowlisted telephone number, if they can be of any assistance during prosecution of the present application.

CERTIFICATE UNDER 37 C.F.R. 1.8:

The undersigned hereby certifies that this paper is being transmitted by facsimile in accordance with 37 CFR §1.6(d) to the Patent and Trademark Office, addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 1614 ay of SEPTEMBER, 2004, at 12.20 CM (Central Time).

Jour Ur-

Respectfully submitted for

Timothy E. Benson

By

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INFORMATION DISCLOSURE STATEMENT	Atty. Docket No.: 6245.N DV1 (M&R 268.62450102/Pfizer 029998)	Serial No.: 10/754,929
	Applicant(s): Timothy E. Benson	Confirmation No.: 8647
	Application Filing Date: Jan. 8, 2004	Group: 1631
	Information Disclosure Statement submitted via facsimile on:	SEPTEMBER <u>6</u> , 2004

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If
	6,689,595 B1	02/10/04	Benson	•		

FOREIGN PATENT DOCUMENTS

Examiner	Document Number	Date	Country	Class	Subclass	Translation	
			- 110			Yeş	No
	EP 0 786 519 A2	07/30/97	EPO				
	WO 99/47639	09/23/99	WIPO				
	WO 99/47662	09/23/99	WIPO				
	WO 00/12678 A2	03/09/00	WIPO				
	WO 01/16292 A2	03/08/01	WIPO				

OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)

Examiner Initial	Bartlett et al., "CAVEAT: A Program to Facilitate the Structure-Derived Design of Biologically Active Molecules," Special Publ., Royal Chem. Soc., 1989;78: 182-196.				
	of Biologically Active Molecules," Special Publ., Royal Chem. Soc., 1989;78:				
	Benson et al., "An Enzyme-Substrate Complex Involved in Bacterial Cell Wall Biosynthesis," Nat. Struct. Biol., 1995;2:644-653.				
	Blundell et al., "Protein Crystallography," Academic Press (1976) (Cover Page, Publication Page and Table of Contents).				
	Böhm, "The Computer Program LUDI: a New Method for the De Novo Design of Enzyme Inhibitors," J. Comput. Aided Mol. Des. 1992 Feb;6(1):61-78.				
	Brown et al., "Crystal Structures of the Thymidine Kinase from Herpes Simplex Virus Type-1 in Complex with Deoxythymidine and Ganciclovir," <i>Nat. Struct. Biol.</i> 1995 Oct;2(10):876-881.				

EXAMINER	Date Considered
*Examiner: Initial if citation considered, whether or not citation is in cu- conformance and not considered. Include copy of this form with next co	nformance with MPEP 609; Draw line through citation if not In

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Examiner Initial	Document Description
	Brünger, "X-PLOR version 3.1: A System for X-ray Crystallography and NMR," New Haven: Yale Univ. Press, (1992), (Cover Page, Publication Page and Table of Contents).
	Collaborative Computational Project N4, "The CCP4 Suite: Programs for Protein Crystallography," Acta Cryst., 1994; D50:760-763.
	de La Fortelle et al., "SHARP: A Maximum-Likelihood Heavy-Atom Parameter Refinement Program for the MIR and MAD Methods," P. Bourne et al., eds., Crystallographic Computing 7 (1997).
	Drenth, "Principles of Protein X-ray Crystallography," Chapter 1, pp. 1-9, 1994, Springer-Verlag, New York.
	Drenth, "Principles of Protein X-ray Crystallography," Chapter 3, pp. 63-69, 1994, Springer-Verlag, New York.
	Eisen et al., "HOOK: A Program for Finding Novel Molecular Architectures That Satisfy the Chemical and Steric Requirements of a Macromolecule Binding Site," <i>Proteins.</i> 1994 Jul; 19(3):199-221.
	Evans, "SETOR: Hardware-Lighted Three-Dimensional Solid Model Representations of Macromolecules," J. Mol. Graph. 1993 Jun; 11(2):134-138.
	Finzel, "LORE: Exploiting Database of Known Structures," Meth. Enzymol., 1997;277:230-242.
	Frick et al., "Effects of 3'-azido-3'-deoxythymidine on the Deoxynucleotide Triphosphate Pools of Cultured Human Cells," <i>Biochem. Biophys. Res. Commun.</i> 1988 Jul 15;154(1):124-129.
	Fridland et al., "Relationship of Deoxynucleotide Changes to Inhibition of DNA Synthesis Induced by the Antiretroviral Agent 3'-azido-3'-deoxythymidine and Release of its Monophosphate by Human Lymphoid Cells (CCRF-CEM)," Mol. Pharmacol. 1990 May; 37(5):665-670.
	Gillet et al., "SPROUT: A Program for Structure Generation," J. Comput. Aided Mol. Des. 1993 Apr;7(2):127-153.

EXAMINER	Date Considered
*Examiner: Initial if citation considered, whether or not citation conformance and not considered. Include copy of this form with	n is in conformance with MPEP 609; Draw line through citation if not in hext communication to applicant.

OMB No. 0651-0011 Page 3 of 6

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Examiner Initial	Document Description
	Goodford, "A Computational Procedure for Determining Energetically Favorable Binding Sites on Biologically Important Macromolecules," J. Med. Chem. 1985 Jul;28(7):849-857.
	Goodsell et al., "Automated Docking of Substrates to Proteins by Simulated Annealing," <i>Proteins.</i> 1990;8(3):195-202.
·	Haebel et al., "Crystallization and Initial Crystallographic Analysis of the Disulfide Bond Isomerase DsbC in Complex with the α Domain of the Electron Transporter DsbD," J. of Structural Biology, 136:162-166 (2001). (Abstract only.)
	Hampton Research, Crystal Screen, Hampton Research Corp., 27632 El Lazo Road, Laguna Niguel, CA.
	Hendrickson, "Determination of Macromolecular Structures from Anomalous Diffraction of Synchrotron Radiation," Science. 1991 Oct 4;254(5028):51-58.
	Hendrickson et al., "Selenomethionyl Proteins Produced for Analysis by Multiwavelength Anomalous Diffraction (MAD): a Vehicle for Direct Determination of Three-Dimensional Structure," EMBO J. 1990 May;9(5):1665-1672.
	Jiang et al., "Protein Hydration Observed by X-ray Diffraction. Solvation Properties of Penicillopepsin and Neuraminidase Crystal Structures," J. Mol. Biol. 1994 Oct 14;243(1):100-115.
	Khurana et al., "Crystal Structure of 2,5-Diketo-D-Gluconic Acid Reductase A Complexed with NADPH at 2.1-Å Resolution," Proc. Natl. Acad. Sci. U. S. A. 1998 Jun 9;95(12):6768-6773.
	Kraulis, "MOLSCRIPT: a Program to Produce Both Detailed and Schematic Plots of Protein Structures," J. Appl. Cryst., 1991;24:946-950.
	Kuntz et al., "A Geometric Approach to Macromolecule-Ligand Interactions," J. Mol. Biol. 1982 Oct 25;161(2):269-288.
	Laskowski et al., "PROCHECK: a Program to Check the Stereochemical Quality of Protein Structures," J. Appl. Cryst., 1993;26:283-291.

EXAMINER	Date Considered	
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		Page 4 of 6
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STATEMENT	Application Filing Date: Jan. 8, 2004	Group: 1631
	Information Disclosure Statement submitted via facsimile on:	SEPTEMBER <u>16,</u> 2004

Examiner Initial	Document Description
	Lattman, "Diffraction Methods for Biological Macromolecules. Use of the Rotation and Translation Functions," Methods Enzymol. 1985;115:55-77.
	Lauri et al., "CAVEAT: a Program to Facilitate the Design of Organic Molecules," J. Comput. Aided Mol. Des. 1994 Feb;8(1):51-66.
	Lavie et al., "Structure of Thymidylate Kinase Reveals the Cause Behind the Limiting Step in AZT Activation," Nat. Struct. Biol. 1997 Aug;4(8):601-604.
	Lavie et al., "Crystal Structure of Yeast Thymidylate Kinase Complexed with the Bisubstrate Inhibitor P ¹ -(5'-adenosyl) P ⁵ -(5'-thymidyl) Pentaphosphate (TP ₅ A) at 2.0 Å Resolution: Implications for Catalysis and AZT Activation," <i>Biochemistry</i> , 1998 Mar 17;37(11):3677-3686.
	Lavie et al., "Structural Basis for Efficient Phosphorylation of 3'-azidothymidine Monophosphate by Escherichia coli Thymidylate Kinase," <i>Proc. Natl. Acad. Sci. U. S. A.</i> 1998 Nov 24;95(24):14045-14050.
	Li de la Sierra et al., "Crystallization and Preliminary X-ray Analysis of the Thymidylate Kinase from Mycobacterium Tuberculosis," Acta Crystallogr. D Biol. Crystallogr. 2000 Feb;56(Pt 2):226-228.
	Low et al., "Some Studies of Protein Crystals in a Variety of Different Media," J. Amer. Chem. Soc., 1956;78:1107-1113.
	Martin, "3D Database Searching in Drug Design," J. Med. Chem. 1992 Jun 12; 35(12):2145-2154.
	Meng et al., "Automated Docking with Grid-Based Energy Evaluation," J. Comp. Chem., 1992;13:505-524.
	Merritt et al., "Raster3D Version 2.0. A Program for Photorealistic Molecular Graphics," Acta Cryst., 1994;D50:869-873.
	Miranker et al., "Functionality Maps of Binding Sites: a Multiple Copy Simultaneous Search Method," <i>Proteins</i> . 1991;11(1):29-34.
	Nave, "A Description of Imperfections in Protein Crystals," Acta Crystallogr. D Biol. Crystallogr. 1998 Sep 1;54(Pt 5):848-853.

EXAMINER	Date Considered
*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through cita conformance and not considered. Include copy of this form with next communication to applicant.	

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Examiner Initial	Document Description
	Neuhard et al., "Biosynthesis and Conversions of Pyrimidines," 2 nd Edition. Washington, D.C.: ASM Press 580-599 (1996).
	Nishibata et al., "Automatic Creation of Drug Candidate Structures Based on Receptor Structure. Starting Point for Artificial Lead Generation," <i>Tetrahedron</i> . 1991;47:8985-8990.
	Noren et al., "A General Method for Site-Specific Incorporation of Unnatural Amino Acids into Proteins," Science. 1989 Apr 14;244(4901):182-188.
	Osterman et al., "Insights into the Phosphoryltransfer Mechanism of Human Thymidylate Kinase Gained from Crystal Structures of Enzyme Complexes Along the Reaction Coordinate," Structure, 2000;8(6):629-642.
	Prince et al., "Streaking to Better Crystals: Crystallization of S. aureus Thymidylate Kinase," Poster presented at Recent Advances in Macromolecular Crystallization on August 22-25, 1999, San Diego, California.
	Reynes et al., "Escherichia coli Thymidylate Kinase: Molecular Cloning, Nucleotide Sequence, and Genetic Organization of the Corresponding tmk Locus," J. Bacteriol. 1996 May;178(10):2804-2812.
	Rossman, ed., "The Molecular Replacement Method. A Collection of Papers on the Use of Non-Crystallographic Symmetry," Int. Sci. Rev. Ser., No. 13, Gordon & Breach, New York (1972) (cover page, publication page and table of contents).
	Sack, "CHAIN - A Crystallographic Modeling Program," J. Mol. Graphics, 1988;6:224-225.
	Sheldrick et al., "Structure Solution by Iterative Peaklist Optimization and Tangent Expansion in Space Group P1," Acta Cryst., 1995;B51:423-431.
	Skrzypczak-Jankun et al., "Flash-Freezing Causes a Stress-Induced Modulation in a Crystal Structure of Soybean Lipoxygenase L3," <i>Acta Cryst.</i> , 1996; D52:959-965.
	Tatusova et al., "BLAST 2 Sequences, a New Tool for Comparing Protein and Nucleotide Sequences," FEMS Microbiol. Lett. 1999 May 15;174(2):247-250; (program available at http://www.ncbi.nlm.nih.gov/gorf/bl2.html)

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Examiner Initial	Document Description	
r	Tesmer et al., "Low Temperature Data Collection of Soybean Lipoxygenase," American Crystallographic Association Annual Meeting, July 21-26, 1991, University of Toledo, Toledo, OH.	
	Travis, "Proteins and Organic Solvents Make an Eye-Opening mix," Science. 1993 Nov 26;262(5138):1374.	
	Van Duyne et al., "Atomic Structures of the Human Immunophilin FKBP-12 Complexes with FK506 and Rapamycin," J. Mol. Biol. 1993 Jan 5;229(1):105-124.	
	Wilson et al., "Who Checks the Checkers? Four Validation Tools Applied to Eight Atomic Resolution Structures. EU 3-D Validation Network," J. Mol. Biol., 1998;276:417-436.	
	Wyckoff et al., eds., Methods in Enzymology, vol. 114, Academic Press (1985) (cover page, publication page and table of contents).	
	Wyckoff et al., eds., Methods in Enzymology, vol. 115, Academic Press (1985) (cover page, publication page and table of contents).	
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